PSEUDOTSUGA MENZIESII – THUJA PLICATA – (ABIES GRANDIS) / GAULTHERIA SHALLON

Douglas-fir – western redcedar – (grand fir) / salal
Abbreviated Name: PSME-THPL-(ABGR)/GASH

Sample size = 29 plots

DISTRIBUTION: In Washington, this association occurs only in the Olympic rainshadow area of San Juan, western Skagit, western Whatcom, eastern Clallam, northeastern Jefferson, and central to northern Island counties. It also occurs in adjacent British Columbia on the Gulf Islands and southeastern Vancouver Island.

GLOBAL/STATE STATUS: G2S1. There are only 8 high-quality occurrences known in Washington. Much of the area of this type has been displaced or degraded by development. The vast majority of stands have been significantly impacted by past timber harvest. Development is an ongoing threat. The type also has a limited geographic range.

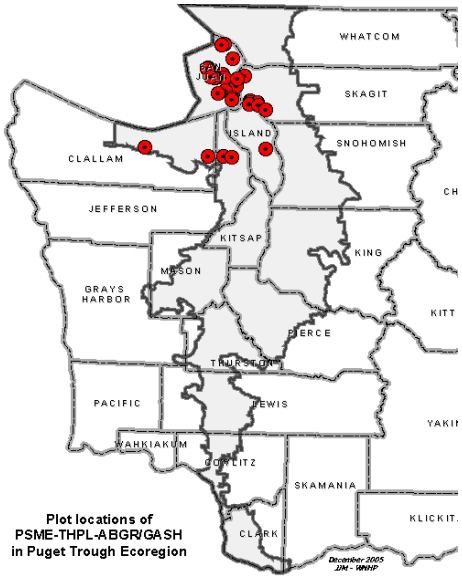
ID TIPS: Located in the Olympic rainshadow *and* western hemlock <25% cover *and* the combined cover of western redcedar and grand fir is greater than that of hemlock. Western redcedar almost always occupies >10% cover or is the dominant tree regeneration. Salal occupies >10% cover or dwarf Oregongrape occupies >5% cover. Sword fern is absent or occupies <5% cover.

ENVIRONMENT: These sites are moderately dry to mesic and appear to be relatively nutrient-poor. Sites are typically gently to moderately sloping. Aspect is more often northerly or easterly. Mid to upper slopes are most frequent. Parent materials are most often glacial till or residuum, but also include colluvium and glacial outwash. Stony or gravelly loams are most typical, with sandy loams also important. Coarse fragments are usually abundant. Occurs in dry climatic areas.

Precipitation: 21-46 inches (mean 28)
Elevation: sea level - 1250 feet
Aspect/slope: N to E, various/ 5-64% (mean 20)
Slope position: mid, upper, plain, short, lower
Soil series: Roche, Fidalgo, Alderwood, Catla, Dick, Guemes, Pickett, Rough stony land, Terbies, Tukey

Vegetation Composition Table (selected species):
Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found;
+ = trace (< 0.5% cover).

Trees	**Kartesz 2005 Name**	**Con**	**Cov**
Douglas-fir	Pseudotsuga menziesii var. menziesii	100	54
western redcedar	Thuja plicata	97	42
grand fir	Abies grandis	72	15
western hemlock	Tsuga heterophylla	52	8
Scouler's willow	Salix scouleriana	31	4
Shrubs and Dwarf-shrubs			
salal	Gaultheria shallon	93	44
oceanspray	Holodiscus discolor	76	10
baldhip rose	Rosa gymnocarpa	72	3
dwarf Oregongrape	Mahonia nervosa	59	9
red huckleberry	Vaccinium parvifolium	55	3
orange honeysuckle	Lonicera ciliosa	41	1
trailing blackberry	Rubus ursinus ssp. macropetalus	31	1
Rocky Mountain maple	Acer glabrum var. douglasii	10	10
Graminoids			
Coast Range fescue	Festuca subuliflora	48	2
western fescue	Festuca occidentalis	38	2
Forbs and Ferns			
sword fern	Polystichum munitum	79	1
western starflower	Trientalis borealis ssp. latifolia	48	1



Douglas-fir – western redcedar – grand fir / salal

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance. Old-growth stands show evidence of past low- to moderate-severity fire (underburns). Western redcedar, and if present, grand fir, increase over time in the absence of disturbance, Douglas-fir decreases, though still remains prominent after hundreds of years. When western hemlock occurs in this association, it appears to be less competitive than redcedar and grand fir, and to survive less well in the long-term, probably due to its lesser drought-tolerance. Depending on seed sources, Pacific madrone or lodgepole pine could regenerate abundantly on these sites after a major disturbance and persist until sometime in the middle of the sere.

VEGETATION: Canopy is usually dominated by Douglas-fir, but occasionally by western redcedar and/or grand fir. Western redcedar is almost always present and grand fir is usually present. Western redcedar and/or grand fir dominates tree regeneration. Western hemlock is sometimes present in small amounts and occasionally prominent in the understory or lower canopy layers. Salal is almost always present and typically dominates the understory, but on occasion dwarf Oregongrape dominates. Oceanspray usually forms a prominent tall shrub layer. Baldhip rose, dwarf Oregongrape, and red huckleberry are usually present in the shrub layer. The herb layer is poorly developed. Sword fern is usually present in small amounts (<5% cover). Western starflower and Coast Range fescue are found in about half the plots.

CLASSIFICATION NOTES: Fonda and Bernardi (1976) described this association from Sucia Island and called it THPL-PSME/GASH. Chappell (1997) called it PSME-THPL/GASH-HODI. NatureServe (2005) currently calls it THPL/GASH, but will in the near future call it part of PSME-(THPL-ABGR)/MANE-GASH.

MANAGEMENT NOTES: Stands that have not been previously harvested, especially mature and old-growth, should be considered for conservation status. These sites appear to be moderately low in productivity for tree growth. Pacific madrone or lodgepole pine can be important on these sites early in succession, but would be expected to be out-competed and/or die out within about 100 years.

Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Washington Department of Natural Resources, Natural Heritage Program, Olympia, WA. [http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf].